

REMARKS

Claims 1-22 were pending in this application.

Claims 1-22 have been rejected.

Claim 23 has been added.

Claims 1-23 are now pending in this application.

Reconsideration and full allowance of Claims 1-23 are respectfully requested.

I. REJECTION UNDER 35 U.S.C. § 103

The Office Action rejects Claims 1-22 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,182,238 to Cooper (“*Cooper*”) in view of U.S. Patent No. 4,530,051 to Johnson et al. (“*Johnson*”) and in further view of U.S. Patent No. 5,127,096 to Kaneko et al. (“*Kaneko*”). This rejection is respectfully traversed.

In *ex parte* examination of patent applications, the Patent Office bears the burden of establishing a *prima facie* case of obviousness. (*MPEP* § 2142; *In re Fritch*, 972 F.2d 1260, 1262, 23 U.S.P.Q.2d 1780, 1783 (Fed. Cir. 1992)). The initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention is always upon the Patent Office. (*MPEP* § 2142; *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 U.S.P.Q. 785, 788 (Fed. Cir. 1984)). Only when a *prima facie* case of obviousness is established does the burden shift to the applicant to produce evidence of nonobviousness. (*MPEP* § 2142; *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956

(*Fed. Cir. 1993*)). If the Patent Office does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of a patent. (*In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (*Fed. Cir. 1992*); *In re Grabiak*, 769 F.2d 729, 733, 226 U.S.P.Q. 870, 873 (*Fed. Cir. 1985*)).

A *prima facie* case of obviousness is established when the teachings of the prior art itself suggest the claimed subject matter to a person of ordinary skill in the art. (*In re Bell*, 991 F.2d 781, 783, 26 U.S.P.Q.2d 1529, 1531 (*Fed. Cir. 1993*)). To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed invention and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. (*MPEP* § 2142).

The Office Action acknowledges that *Cooper* and *Johnson* both fail to disclose a "plurality of subroutines sequentially callable by [a] main routine." (*Office Action*, Page 5, *Second paragraph*). The Office Action also acknowledges that *Cooper* and *Johnson* both fail to disclose that a "main routine," after transferring "program execution control" to a "first subroutine" and then "sequentially transferring program execution control" to "each remaining subroutine," again transfers "program execution control" to the "first subroutine" at an "address of [a] decision point contained in [a] first multitasking vector" as recited in Claims 1, 9, and 17.

(*Office Action, Page 5, Second paragraph*). The Office Action asserts that *Kaneko* discloses these elements of Claims 1, 9, and 17 and that it would be obvious to modify *Cooper* and *Johnson* with *Kaneko*. (*Office Action, Page 5, Last paragraph – Page 6, Second paragraph*).

Kaneko recites an apparatus that supports both direct mapping and bank mapping of memory. (*Abstract*). The apparatus uses various switches 111-112 or address decoders to allow one or more subroutines to access different portions of memory that use different mapping schemes. (*Col. 10, Line 56 – Col. 11, Line 14*). A program being executed may include a main routine in a first memory block 14 that calls a subroutine in a second memory block 15. (*Col. 5, Lines 22-28*). The second memory block 15 could include multiple subroutines SUB1 and SUB2. (*Col. 5, Lines 43-45*). To transfer control to the first subroutine SUB1, the main routine transfers the starting address Y of the first subroutine SUB1 to a register, particular instructions are executed, and the first subroutine SUB1 is executed. (*Col. 5, Lines 55-65*). Upon completion, a return instruction RET in the first subroutine SUB1 transfers control to another program in the second memory block 15, and that program eventually returns control to the main routine. (*Col. 5, Line 65 – Col. 6, Line 4*). To transfer control to the second subroutine SUB2, the starting address W of the second subroutine SUB2 is transferred to the register, and the same process is used. (*Col. 6, Lines 5-12*).

First, the cited portions of *Kaneko* lack any mention that the subroutines SUB1 and SUB2 are executed in order and then execution of the subroutines SUB1 and SUB2 repeats. For example, the cited portions of *Kaneko* lack any mention that execution of the subroutine SUB1 occurs first, followed by execution of the subroutine SUB2, followed by execution of the

subroutine SUB1 again. Also, the cited portions of *Kaneko* lack any mention that the second execution of the subroutine SUB1 starts at some location inside the first subroutine. In fact, the cited portions of *Kaneko* recite just the opposite. According to the cited portions of *Kaneko*, the subroutine SUB1 is executed until complete, and then control is returned to the main program. The cited portions of *Kaneko* lack any mention that control returns to the subroutine SUB1 after the subroutine SUB1 has been completely executed or that control returns to the subroutine SUB1 at some location inside the subroutine SUB1. As a result, the Office Action incorrectly asserts that *Kaneko* discloses, teaches, or suggests a “plurality of subroutines sequentially callable by [a] main routine,” where the main routine (after calling the first subroutine and each of the remaining subroutines) again transfers “program execution control” to the “first subroutine” at an “address of [a] decision point contained in [a] first multitasking vector” as recited in Claims 1, 9, and 17.

Second, the Office Action asserts that the motivation to modify *Cooper* and *Johnson* with *Kaneko* is that *Kaneko* would allow “the use of a ROM of less capacity for [a] program memory” as recited in *Kaneko* at column 11, lines 35-43. (*Office Action, Page 6, Second paragraph*). The Applicants note that the benefit of using a smaller ROM is not provided by using the alleged “sequentially callable subroutines” from *Kaneko* in *Cooper* or *Johnson*. Rather, the cited portion of *Kaneko* refers to the fact that different “mapping schemes” may be used in an apparatus, and it is this functionality (not the alleged “sequentially callable subroutines”) that provides the benefit of using a smaller ROM in *Kaneko*. Because of this, the Patent Office cannot use this motivation to combine only the alleged “sequentially callable subroutines” from *Kaneko* with *Cooper* or

Johnson. Instead, the Patent Office must show that a person skilled in the art would use the different “mapping schemes” from *Kaneko* in *Cooper* or *Johnson*. Only then would the benefit of a smaller ROM be realized in *Cooper* or *Johnson*. However, the Patent Office has failed to establish that *Cooper* or *Johnson* needs to use both “mapping schemes” as disclosed in *Kaneko*. As a result, the Office Action fails to establish that a person skilled in the art would modify *Cooper* or *Johnson* with the functionality of *Kaneko*.

At most, the Office Action has established that *Kaneko* discloses executing two subroutines (which may occur sequentially). The Office Action fails to establish that *Kaneko* discloses, teaches, or suggests a “plurality of subroutines sequentially callable by [a] main routine,” where the main routine (after calling the first subroutine and each of the remaining subroutines) again transfers “program execution control” to the “first subroutine” at an “address of [a] decision point contained in [a] first multitasking vector” as recited in Claims 1, 9, and 17.

For these reasons, the proposed *Cooper-Johnson-Kaneko* combination fails to disclose, teach, or suggest all elements of Claims 1, 9, and 17 (and their dependent claims). Accordingly, the Applicants respectfully request withdrawal of the § 103 rejection and full allowance of Claims 1-22.

II. NEW CLAIM

The Applicants have added new Claim 23. The Applicants respectfully submit that no new matter has been added. At a minimum, the Applicants respectfully submit that Claim 23 is patentable for the reasons discussed above. The Applicants respectfully request entry and full

allowance of Claim 23.

III. CONCLUSION

The Applicants respectfully assert that all pending claims in this application are in condition for allowance and respectfully request full allowance of the claims.

SUMMARY


If any issues arise, or if the Examiner has any suggestions for expediting allowance of this application, the Applicants respectfully invite the Examiner to contact the undersigned at the telephone number indicated below or at *wmunck@davismunck.com*.

The Applicants have included the appropriate fee to cover the cost of this AMENDMENT AND RESPONSE. The Commissioner is hereby authorized to charge any additional fees connected with this communication (including any extension of time fees) or credit any overpayment to Davis Munck Deposit Account No. 50-0208.

Respectfully submitted,

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